

2 N D Q U A R T E R

# 2002 Operational Report to Congress

J A N U A R Y - M A R C H 2 0 0 2

## *Overall*

- The first of a generation of more flexible contracts with TVA-served local utilities was signed in April with the Knoxville Utilities Board (KUB). Under the new contract, KUB has the ability to cancel its contract with TVA by giving five years' notice instead of 10 years, and TVA will no longer regulate KUB's retail rates. The end-date for TVA to recover stranded costs from KUB is September 30, 2007. The same terms will be available to the other 157 utilities and cooperatives served by TVA. Future contract provisions are under development to give customers the options of having shorter-term contracts with TVA, having longer-term contracts, or purchasing part of their electricity supply from outside sources.
- Nuclear and fossil generating units continue to set production records for TVA's customers. Browns Ferry Nuclear Plant Unit 3 recorded the longest continuous operational run of a TVA nuclear unit and the second-longest in the United States. Unit 3 operated continuously for 669 days before going offline for a scheduled refueling outage. The unit generated nearly 18 billion kilowatt-hours of electricity in that time, a world record. In January, a unit at Cumberland Fossil Plant set a continuous-run record of 201 days, and in March a unit at Allen Fossil Plant set a record of 180 days.

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# Milestones

## POWER OPERATIONS

- Two more selective catalytic reduction (SCR) systems are scheduled for operation this summer at Allen Fossil Plant, joining two systems already in operation at Paradise Fossil Plant. TVA is installing 18 SCR systems at seven fossil plants to further reduce emissions of nitrogen oxide (NO<sub>x</sub>). By 2005, TVA emissions of NO<sub>x</sub> during the summer ozone season will be about 75 percent less than in the mid-1990s.
- TVA issued a request for proposals for a scrubber to reduce sulfur dioxide emissions from Paradise Fossil Plant. Counting the new Paradise scrubber, TVA plans to build five additional scrubbers to reduce sulfur dioxide emissions. The scrubbers will cost about \$1.5 billion and will collectively reduce emissions by more than 200,000 tons per year, bringing TVA's total emissions down by 85 percent since 1977.
- TVA completed its air-quality modeling obligations under its contract with the Southern Appalachian Mountains Initiative (SAMI). Modeling results revealed the levels of air quality benefits that could be expected from a variety of emissions-reduction strategies proposed for the Southern Appalachian states. The greatest improvement was associated with emissions reductions already required for 2010. TVA has discussed the SAMI results with the Commonwealth of Kentucky, the Tennessee Association of Business, the Tennessee Department of Environment & Conservation, and the Tennessee Governor's office.
- To ensure a reliable supply of power to customers, TVA is building 680 megawatts of additional combustion-turbine capacity to help meet peak power demands this summer. The site for 340 megawatts of this capacity is a new one in Kemper County, Mississippi. The remaining 340 megawatts will be installed at TVA's Lagoon Creek site in Tennessee, where eight combustion turbines began operating in time for last summer's peak demands.
- TVA decided not to proceed with a proposed combined-cycle power plant in Franklin County, Tennessee. The decision not to build the plant was made after careful evaluation of several factors, including the availability of power from other sources and other longer-term options for meeting baseload power needs.
- Three power delivery points were placed in service, and about 24 miles of new transmission line was constructed during the quarter.
- Colbert Fossil Plant employees set an all-time record for the total number of employee-hours worked safely at a TVA fossil plant—working more than five million hours without a lost-time accident. John Sevier Fossil Plant employees have the record for the longest period of time worked safely at a fossil plant—going more than 11 years without an accident.

To continue ensuring a reliable supply of power to customers, TVA will have 340 megawatts of combustion turbine capacity available from a new site this summer.

- The modernization of Hiwassee Dam Unit 1 was completed ahead of schedule. The work increases the unit's generating capacity by 4.9 megawatts.
- The Nuclear Regulatory Commission's annual reviews of Sequoyah and Watts Bar Nuclear Plants found that each plant operated in a manner that preserved public health and safety and fully met objectives for safe operation.
- The Nuclear Energy Institute has recognized a TVA-developed Internet application as a Top Industry Practice, which honors innovative, transferable practices in the nuclear industry. TVA Nuclear uses the application to track and manage employee performance errors.

## CUSTOMER SERVICE AND MARKETING

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- During the quarter, TVA approved \$5.9 million in economic development loans for business growth in the Tennessee Valley. The loans are expected to leverage an additional \$37.7 million in capital investment and help create or retain 1,713 jobs. Loans to Valley minority businesses totaled \$676,500.
- Eight banks are participating in the Valley Coalition for Minority Economic Development, which provides loans to small disadvantaged businesses. TVA's investment of almost \$1.4 million has leveraged \$6.4 million from banking partners and created 155 jobs.
- TVA and the Minority Business Development Agency have signed a Memorandum of Understanding to increase technical assistance for minority and socially and economically disadvantaged businesses served through the Valley Coalition.
- Green Power Switch®, the accredited renewable energy program offered by TVA and the distributors of TVA power, has earned two top-10 national rankings, making it a leading utility green-pricing program. The Department of Energy has ranked Green Power Switch eighth in the nation for the amount of new energy produced and 10th in the nation for the number of customers participating.
- TVA's 12th Green Power Switch solar facility went online in February. The facility, at Oak Ridge National Laboratory, can produce about 10,500 kilowatt-hours of electricity a year.
- TVA and the distributors of TVA power completed the redesign of the *energy right*® marketing program for residential and small commercial consumers. The new program will begin June 1, 2002, and will result in lower costs to TVA and greater local flexibility. More than 40,000 consumers will participate in the *energy right*® program this year to promote the efficient use of electricity through heat pumps, water heaters, and new homes.

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- TVA completed 82 technical services projects for Valley communities and industries during the quarter. Notable projects include a property evaluation in Jackson County, Alabama, for a proposed industrial park; a downtown lighting design for Paducah, Kentucky; a site evaluation of the Clinch River Breeder Reactor site in Roane County, Tennessee; a building and renovation cost estimate for Fannin County, Georgia; an economic profile and labor-market analysis for Weakly County, Tennessee; and a site plan design for an industrial speculative building in Clay County, Tennessee. In addition, projects have been evaluated on behalf of the Appalachian Regional Commission and TVA for capital investment.

## **FINANCE**

- A \$936 million bond exchange will reduce TVA's interest expense by \$3.3 million annually.
- A new risk management reporting system is being implemented that will support major business decisions by improving TVA's ability to evaluate market factors and operational issues.
- A new \$1 billion catastrophic insurance program is being developed to better protect cash flow and maintain financial health in the event of a major disaster.

## **RIVER SYSTEM OPERATIONS & ENVIRONMENT**

- The Tennessee Valley averaged 16.3 inches of rainfall during the quarter, 108 percent of normal. Runoff (the rain that reaches the reservoirs) continues to be below normal.
- Because the area west of Chattanooga has been wetter than normal, several dams on the lower main river had to spill water for flood control on the Tennessee and Ohio Rivers. TVA's actions helped prevent more than \$90 million in flood damage in the Tennessee Valley during the quarter and helped prevent an additional \$4 million in damage along the lower Ohio River, outside the Valley.
- Navigation downstream of Chickamauga Dam had to be suspended for several days in January and in March due to increased flow after heavy rains.
- TVA's two-year Reservoir Operations Study is examining TVA's policies for operating the Tennessee River system and reservoirs to determine if policy changes would increase overall public value. A draft Environmental Impact Statement will be completed in spring 2003, and a final recommendation to the TVA Board is expected in fall 2003. TVA is conducting the study in response to recommendations from its citizen advisory group, the Regional Resource Stewardship Council, and other stakeholder groups and individuals. Accomplishments this quarter include the following:

**Work continues on the construction of the first U.S. installation of a Regenesys energy storage facility in Columbus, Mississippi.**

- TVA conducted the first four of 21 community workshops across the region to gather public comment on the scope of the study. In the workshops, members of the public comment on how TVA manages the river system now and how they believe the system should be managed to provide a variety of benefits.
  - Seventeen representatives from state and federal agencies participated in two Interagency Team meetings. TVA formed the team to expedite the agency review process and support the study's aggressive schedule.
  - The study's Public Review Group held its first meeting. The group consists of 13 citizens from various stakeholder groups across the Valley and will provide input for the study.
  - A contractor was selected to analyze flood risk associated with any changes in operating policy.
- Data from the constructed wetlands demonstration at Stirling Farms in Aliceville, Alabama, indicate that the TVA ReCip® technology is performing well in removing ammonia from lagoon wastewater. The wetlands treat about 30,000 gallons per day of lagoon wastewater from a swine-finishing operation. The cleaned water is used to flush out the operation's barns and is also used for irrigation. The demonstration has been visited by a cross-section of the public and scientific community.
  - Work continues on the construction of the first U.S. installation of a Regenesys energy storage facility in Columbus, Mississippi. Site preparation and foundation installation are on schedule.
  - The Large Public Power Council, which represents the nation's 20 largest municipal electric utilities, and TVA's Public Power Institute have agreed to work together to develop and implement projects and technologies that support public power's role as a power producer and provider, a leader in environmental responsibility, and a promoter of efficient energy use. Memphis Light, Gas & Water and Knoxville Utilities Board are members of the council.
  - Several TVA employees were among those recognized in the 2001 Federal Energy & Water Management Awards, administered by the Department of Energy. TVA was recognized for establishing Green Power Switch; TVA employees were recognized for the ozonation project with Strickland Produce in Nashville, for water management work, and for effective program management.
  - TVA renewed the charter of the Regional Resource Stewardship Council for an additional two years. TVA has invited the members of the original council (other than those appointed by state governors) to continue their participation. The first meeting of the renewed Council is planned for summer 2002.
  - TVA and stakeholder groups are continuing activities to manage aquatic plants at Chickamauga and Guntersville Reservoirs.

**TVA helped the  
Department of the Army  
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- TVA distributed 1,500 trees to homeowners adjacent to TVA reservoir lands. The epidemic of southern pine beetles has killed thousands of trees, and property owners who obtained permission from TVA to cut hazardous trees have saved TVA hundreds of thousands of dollars in tree-removal costs. In return, TVA is providing native hardwood trees for planting.
- TVA helped the Department of the Army meet another Chemical Weapons Convention Treaty milestone. The work included the destruction of all remaining Category 3 chemical weapons before the deadline of April 29, 2002.
- TVA conducted community workshops to get public input on several issues and projects. Almost 800 members of the public provided comments on the Reservoir Operations Study, a proposed wind farm in Tennessee, siltation in Nolichucky Reservoir, and a proposed paper-processing plant in Alabama.
- TVA's Public Power Institute submitted the first annual technical report for a project that will use flue gas desulfurization by-products from a TVA fossil plant for mulching and irrigating trees. The trees, in turn, will capture and store atmospheric carbon to help comply with possible future controls on carbon dioxide emissions from fossil plants. The project is funded by the Department of Energy, EPRI, and TVA.

## **HUMAN RESOURCES**

- A new TVA-funded Health Care Credit for eligible retirees will be implemented July 1, 2002, retroactive to January 1, 2002. The credit will help offset the increasing cost of health care coverage for eligible retirees.

## **SECURITY**

- TVA has completed security assessments of its dam and hydropower facilities and is installing additional security devices. Nine recreation facilities have been reopened to the public with additional security measures in place. Visitor centers at Raccoon Mountain Pumped Storage Plant and Wilson Dam had been closed since September 11, 2001, but were reopened in March and early April. Fontana Dam and Kentucky Dam visitor centers will reopen on their regular seasonal schedules: May 4 for Fontana and June 1 for Kentucky.
- In January, TVA's Agency Emergency Response Plan became effective to provide an agency-wide response to emergencies or threats. The plan provides for a coordinated effort to protect TVA employees and property, the health and safety of the public, and the resources of the Tennessee Valley. TVA is also working with the Valley states on emergency preparedness measures.

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- The Department of Defense's National Imagery and Mapping Administration has awarded TVA additional mapping projects related to the events of September 11. The work will take an estimated eight months and will be performed in TVA's secure mapping facility. This supports TVA's long tradition of providing mapping services for national defense.

## **ADMINISTRATION**

- As part of its Strategic Facilities Plan to use space more efficiently, TVA executed sublease and license agreements for outside parties to rent 34,000 square feet of office, vehicle storage, and training space. Year-to-date savings and revenues resulting from the Strategic Facilities Plan total \$794,000.
- Improved procurement processes are producing significant savings, including the following:
  - TVA reduced operational costs this quarter by \$3.5 million by standardizing more than 18 types of items, such as drill bits, air compressors, and transformers.
  - So far this fiscal year, TVA has avoided more than \$32 million in costs through an improved contract-management strategy.
  - TVA's Supply Chain management software, implemented in 2001, has achieved more than \$15 million in savings to date through reduced labor costs, inventory and freight optimization, and information-technology cost reductions.
- TVA is using eProcurement technology to conduct online reverse auctions for the purchase of some items and equipment. Savings of 4 to 15 percent have been achieved through the auctions, which allow participating suppliers to submit online bids to sell items or equipment to TVA.

## **STATE NEWS**

### **ALABAMA**

- TVA has been assisting cities in the Muscle Shoals area and the Retirement Systems of Alabama with an economic development proposal for a hotel complex and golf course. Initially, TVA lands on the Wilson Dam and Muscle Shoals Reservation were requested for the proposal. Now the communities will pursue private lands for the golf course and TVA lands for the hotel complex. TVA will continue to work with the Shoals community and its leadership in support of this project.
- About 100 people attended a community workshop on a proposal by Southeastern Tissue for a recycled paper processing and tissue manufacturing plant on Pickwick Reservation near Barton, Colbert County. While there was general support for the proposal because of its economic development value, some attendees had concerns about negative impacts, including noise and the proposed location of the wastewater outfall near a residential area on Mulberry Creek.

#### **TVA and the West Kentucky**

##### **Lean Manufacturing**

##### **Network hosted a Lean**

##### **Manufacturing**

##### **simulation to help**

##### **companies increase**

##### **efficiency.**

- The Calpine Decatur Energy Center in Decatur was supplied with an interconnection to TVA's transmission grid, and initial synchronization was achieved.

### **KENTUCKY**

- TVA and the West Kentucky Lean Manufacturing Network hosted a lean manufacturing simulation in Paducah to help companies increase efficiency and eliminate waste in their production systems. More than 20 companies participated.
- The Duke Energy Marshall Generation Station was supplied with an interconnection to the TVA transmission grid at TVA's Marshall, Kentucky, 500-kV substation to provide back-feed power and allow Duke to export test power as scheduled.
- TVA is working with the Glasgow Electric Plant Board on a project with the American Public Power Association. The project will demonstrate new technologies for outdoor lighting control, monitoring, and maintenance.
- TVA is managing a project for the Forest Service in Daniel Boone National Forest. The Forest Service has identified 163 features from historical coal mining activities in the forest that have impacted or have the potential to impact land and water resources. Under a reimbursable contract, TVA will assist with project management, inventory completion, risk prioritization, GIS assessments, and remediation activities.
- The Web site for Paducah Power System was completed in March and is available at <http://www.paducahpower.com>. TVA offers Web site development and support contract services to TVA power distributors.

### **MISSISSIPPI**

- The North Mississippi Enterprise Initiative received funding from the Department of Agriculture for completion of the Grenada Enterprise Center. The Initiative's incubator network is a collaborative effort by the State of Mississippi, the Economic Development Administration, TVA, and the respective city and county governments.
- TVA met with representatives of Mississippi State, the University of Mississippi, the University of Southern Mississippi, and Mississippi industry and state government to discuss possible projects and programs of mutual benefit for TVA and the Mississippi Technology Alliance.

### **TENNESSEE**

- TVA joined in the "Pulling Strings in Tennessee" red-carpet tour hosted by the Tennessee Department of Economic & Community Development and Partnership 2010. More than 50 corporate decision-makers and site-selection consultants learned about the economic benefits of middle Tennessee and why Nashville has become a popular relocation destination.



**The TVA Board approved a public auction of more than 500 acres of property at the former Hartsville nuclear site for industrial and commercial development.**

- TVA's Senior Vice President of Procurement has been named Vice Chairman of the Mid-South Minority Business Council in Memphis, Tennessee. The council promotes the growth and development of minority and woman-owned businesses.
- Grundy and Sequatchie Counties were designated "Champion Communities" by the Department of Agriculture. The designation entitles the counties to special consideration when applying for community revitalization grants. TVA facilitated planning workshops and helped design the broad-based citizen input that included four events attended by 435 community members.
- In March, the TVA Board approved a public auction of more than 500 acres of property at the former Hartsville nuclear site in Middle Tennessee for industrial and commercial development.
- Officials from Memphis Light, Gas & Water and Memphis Area Transportation Authority visited Chattanooga to get information on the use of electric bus transportation.
- Nashville Electric Service is working with TVA and the Tennessee Valley Public Power Association to install three transformers filled with soybean-based oil. The transformers are the first of their kind in Tennessee and use environmentally friendly soybean oil instead of the conventional petroleum-based mineral oil for cooling.
- TVA met with members of Land Owners and Users of Douglas to discuss recent flood control operations and the impact on Douglas reservoir levels. TVA explained it has no plans to change reservoir operations policy until the Reservoir Operations Study is complete.
- Over the years, siltation in Nolichucky Reservoir has increased potential flooding impacts on adjacent private property. TVA hosted three public workshops to discuss with the public alternatives for addressing the problem.
- TVA's Upper Holston Watershed Team, in cooperation with five stakeholder groups, planted 3,000 native shrub and tree seedlings along the South Holston and Fort Patrick Henry Reservoirs to help improve critically impaired shoreline.
- Plans continue to evolve for a trail system on both sides of the Tennessee River from Pickwick Landing State Park to Paris Landing State Park, including connections to The Land Between The Lakes and Nashville. A meeting on this concept included representatives from 21 federal, state, county, and city agencies.
- The Duck River Agency has convened a multi-agency partnership to prepare a regional water supply plan for the Upper Duck River. Partners include all the public utilities that withdraw water from the Duck River, three Tennessee agencies, and five federal agencies, including TVA. The Nature Conservancy and World Wildlife Fund are supporting development of the plan due to their interest in sustaining the significant biological diversity of the Duck River. The plan is scheduled for completion in 2004.